

EIKI

PORTABLE LCD PROJECTOR

MODEL **LC-180**



OWNER'S INSTRUCTION MANUAL

INFORMATION TO THE USER

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

SAFETY PRECAUTIONS

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

The Portable LCD projector has a grounding-type AC line plug. This is a safety feature to be sure that the plug will fit into the power outlet. Do not try to defeat this safety feature.

Intense light source. Do not stare directly into the projection lens as possible eye damage could result. Be especially careful that children do not stare directly into the beam.

If the Portable LCD projector will not be used for an extended time, unplug the Portable LCD projector from the power outlet.

READ AND KEEP THIS OWNER'S MANUAL FOR LATER USE.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		
 THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.	 THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE OWNER'S MANUAL WITH THIS UNIT.	

IMPORTANT:

For your protection in the event of theft or loss of this Portable LCD projector, please record the Model Number and Serial Number located on the rear of unit and retain this information. Refer to these numbers whenever you call upon your authorized dealer regarding this product.

Do not discard shipping carton and packing materials. These items may be needed for storage or future servicing.

Model No: LC-180

Serial No: _____

IMPORTANT SAFETY INSTRUCTIONS

All the safety and operating instructions should be read before the product is operated.

Read all of the instructions given here and retain them for later use. Unplug this projector from AC power supply before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

Do not use attachments not recommended by the manufacturer as they may cause hazards.

Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious injury to a child or adult, and serious damage to the projector. Use only with a cart or stand recommended by the manufacturer, or sold with the projector. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

Do not expose this unit to rain or use near water... for example, in a wet basement, near a swimming pool or the like.

Slots and openings in the cabinet and the back or bottom are provided for ventilation, to insure reliable operation of the equipment and to protect it from overheating.

The openings should never be covered with cloth or other material, and the bottom opening should not be blocked by placing the projector on a bed, sofa, rug, or other similar surface. This projector should never be placed near or over a radiator or heat register.

This projector should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

This projector should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized dealer or local power company.

Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not allow anything to rest on the power cord. Do not locate this projector where the cord will be abused by persons walking on it.

Never push objects of any kind into this projector through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the projector.

Do not attempt to service this projector yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Unplug this projector from wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power cord or plug is damaged or frayed.
- If liquid has been spilled into the projector.
- If the projector has been exposed to rain or water.
- If the projector does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the projector to normal operation.
- If the projector has been dropped or the cabinet has been damaged.
- When the projector exhibits a distinct change in performance-this indicates a need for service.

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.

Upon completion of any service or repairs to this projector, ask the service technician to perform routine safety checks to determine that the projector is in safe operating condition.



This projector is equipped with a grounding type AC line plug. Should you be unable to insert the plug into the outlet, contact your electrician. Do not defeat the safety purpose of this grounding type plug.

Follow all warnings and instructions marked on the projectors.

For added protection for the projector during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage due to lightning and powerline surges.



An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

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POWER REQUIREMENTS

Your projector uses nominal input voltages of 120 VAC. The projector is designed to work with single-phase power systems having a grounded neutral conductor. To reduce the risk of electrical shock, do not plug into any other type of power system. Consult your authorized dealer or service station if you are not sure what type of power is supplied to your building.

Projector side (Female)

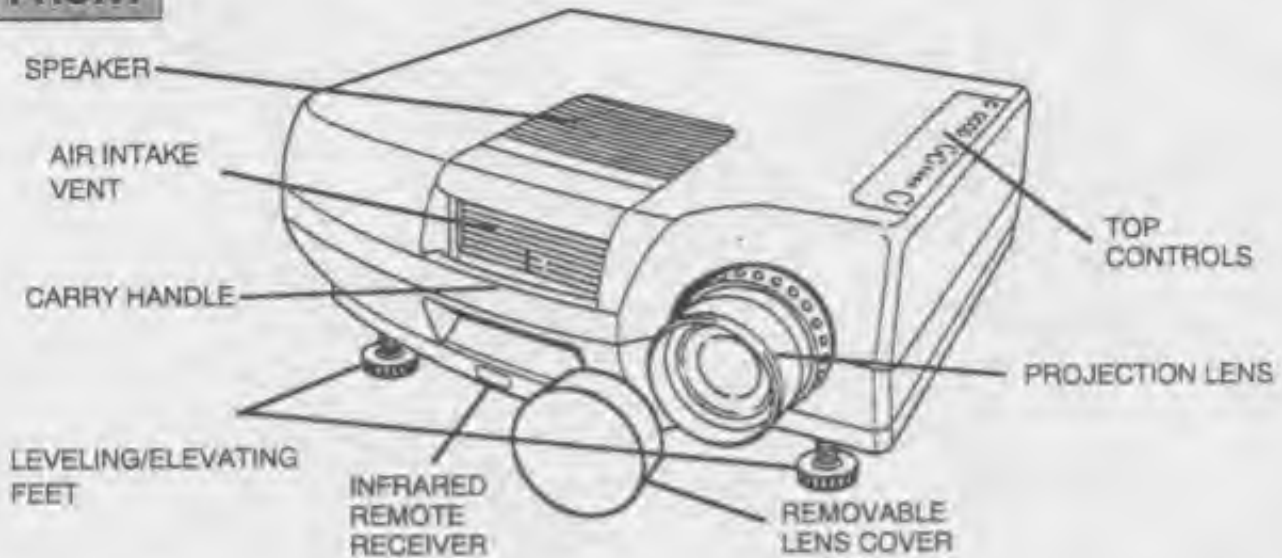


AC outlet side (Male)

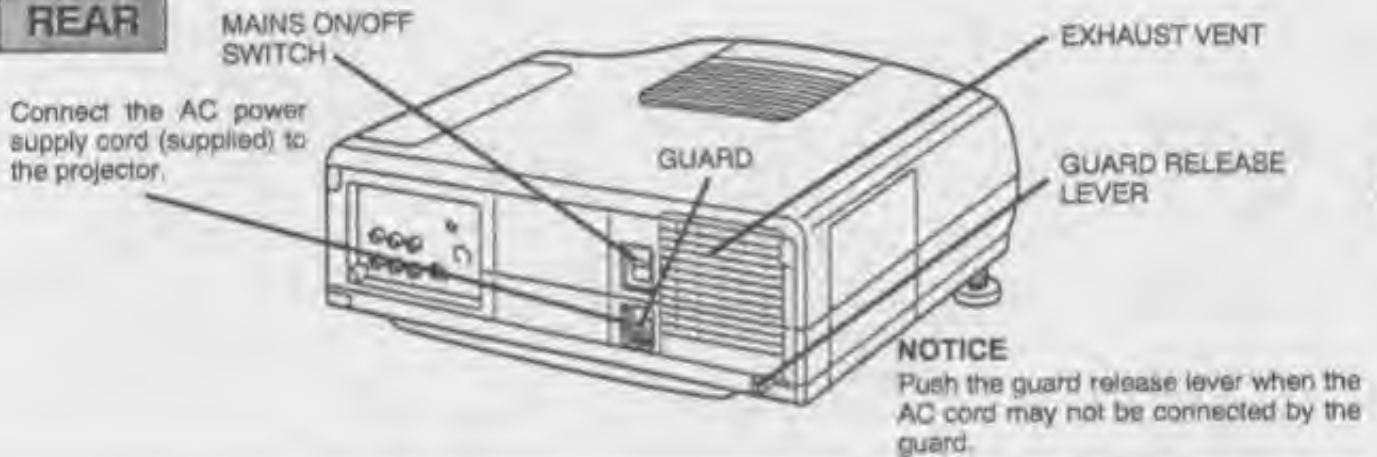


DESCRIPTION

FRONT



REAR

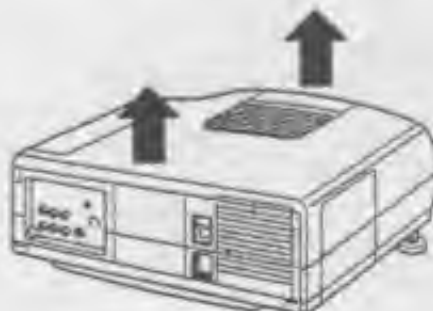


MOVING THE PROJECTOR

Use the carry handle when moving projector. Replace the lens cover when moving the projector to prevent damage to the lens.

NOTE:

Do not hold the projector by the filter cover when moving. You risk dropping the projector if the cover comes loose.



OPERATION OF CONTROLS



TOP CONTROLS

TOP CONTROLS

POWER (LAMP) ON/OFF BUTTON
Used to turn projection lamp on or off.

POWER INDICATORS
Lights dim when the projector is on.
Lights bright when the projector is stand-by position.

READY INDICATORS
Lights green when projector lamp is ready to be turned on.

TEMPERATURE WARNING INDICATOR
Flashes red when internal projector temperature is too high.

LAMP REPLACEMENT INDICATOR
Lights orange when projection lamp is nearing end of service life.

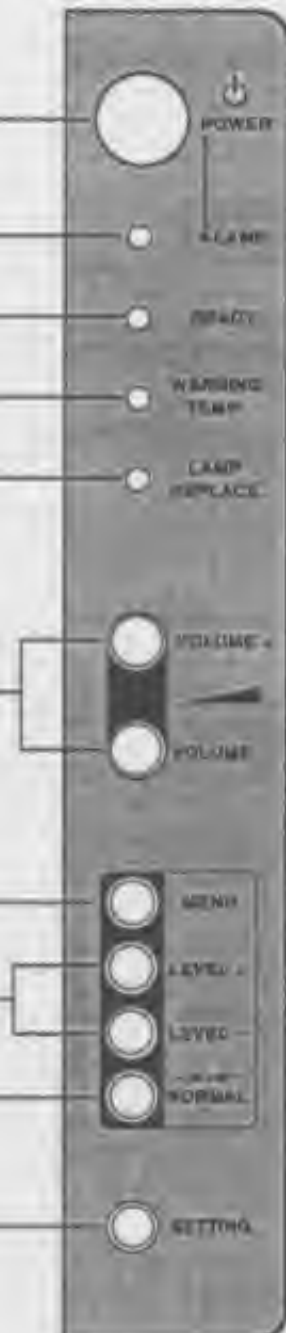
VOLUME BUTTONS
Used to adjust volume.

MENU BUTTON
Used to select on-screen adjustment displays for color, tint, contrast, brightness and sharpness. Press repeatedly to cycle.

LEVEL CONTROL BUTTONS
Used to adjust color, tint, contrast, brightness, sharpness, display, blue background and reverse T/B by pressing + or - button.

NORMAL BUTTON
Used to reset to normal picture adjustment preset by factory.

SETTING BUTTON
Used to select on-screen adjustment displays for focus setting pattern, display, blue background and reverse T/B. Press repeatedly to cycle.



BACK OF THE PROJECTOR

AUDIO INPUT JACKS

Used to connect an audio input to the projector.

VIDEO INPUT JACK

Used to connect a video source to the projector.

VIDEO INPUT JACK (BNC)

Used to connect a video source to the projector.

WIRED REMOTE JACK

When using the wired remote control, connect the remote cable to this jack.

MAINS ON/OFF SWITCH

Used to turn the projector on.

S-VIDEO INPUT JACK

Used to connect a S-VHS video source to the projector.

EXT. SP. JACK (3.5 mm mini type)

Use to connect a external monaural speaker system.

VIDEO MONITOR OUTPUT JACK

Permits video connection to a monitor.

AUDIO MONITOR OUTPUT JACKS

Permits audio connection to a monitor.

REMOTE CONTROL OPERATION

INFRARED/WIRED REMOTE CONTROL



REMOTE CONTROL BATTERY INSTALLATION

- 1** Remove the battery compartment lid.



- 2** Slide the batteries into the compartment.

Note: For correct polarity (+ and - terminal), be sure the battery terminals are in contact with the pins in the compartment.



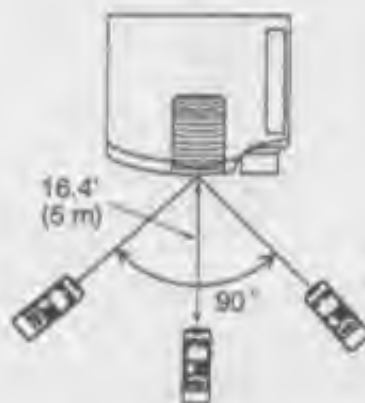
- 3** Replace the compartment lid.



The remote control unit can be used as wireless or wired remote control.

USING THE REMOTE CONTROL UNIT (wireless)

Point the remote control toward the front of the projector (Receiver window) whenever pressing the buttons. Maximum operating range for the remote control is about 16.4' (5m) and 90° from the front of the projector.

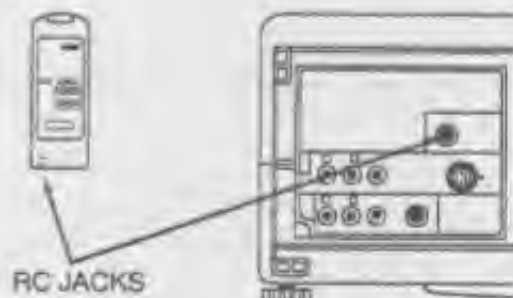


USING THE REMOTE CONTROL UNIT (wired)

Connect a remote control cable to RC jacks located on the remote control unit and the back of the projector.

To insure safe operation, please observe the following precautions:

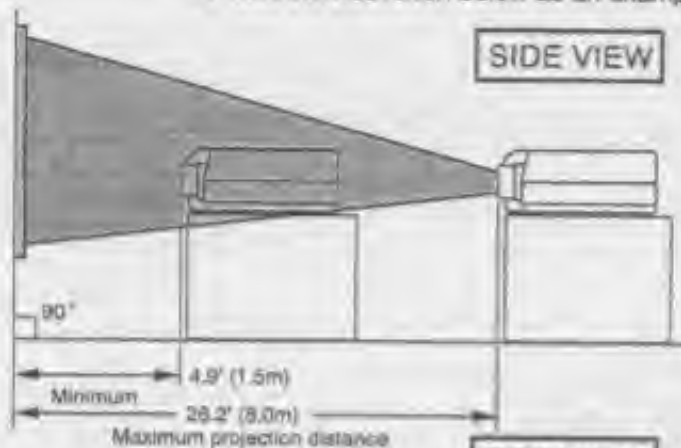
- * Use (3) AA type batteries.
- * Change three batteries at the same time.
- * Do not use a new battery with a used battery.
- * Avoid contact with water.
- * Do not drop the remote control unit.



SETTING-UP THE PROJECTOR

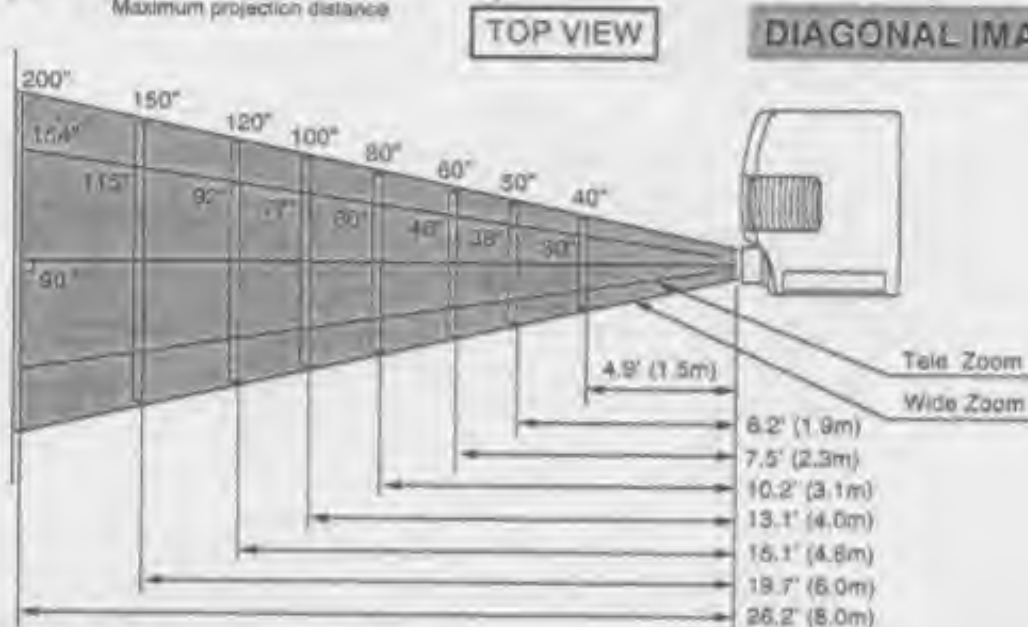
POSITIONING:

- This projector is basically designed to project on a flat projection surface.
- This projector can be focused from 4.9' (1.5m) - 26.2' (8.0m).
- Use the illustration below as an example when positioning the projector to the screen.



ROOM LIGHT

The projector should ideally be placed in a room with very limited light. Picture quality will be directly affected by lighting conditions.

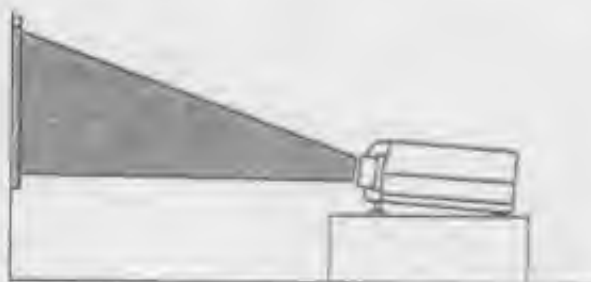


DIAGONAL IMAGE SIZES

LEVELING AND ELEVATING ADJUSTMENTS

Picture adjustments can be made with the two leveling/elevating feet. Adjustments of 6" up are possible by rotating the feet on the bottom of the projector.

Adjust leveling of the projector, by rotating the two (left and right) feet on the bottom of the projector.



LEVELING/ELEVATING FEET



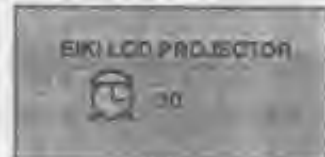
USING THE PROJECTOR

TO TURN ON THE PROJECTOR

Connect the projector to a video source (VCR, Video Camera, Video Disc Player, etc.) using the appropriate terminals on the rear of the projector (See page 14-15).

Connect the projector's AC power cord into a wall outlet and turn the MAINS ON/OFF switch (located on the back of the projector) to ON position. The POWER indicator will light RED and the READY indicator will light GREEN.

Press the POWER (LAMP) ON/OFF button on the projector or on the remote control unit to ON. The POWER indicator will light dim and the cooling fan will operate. The display (EIKI LCD PROJECTOR and numeral 30) appears on the screen and the count-down starts (30-29-28-...1). The signal from the video source appears after 30 seconds.



CAUTION:

- THIS PROJECTOR USES A METAL-HALIDE ARC LAMP. IF YOU TURN ON THE LAMP, DO NOT TURN IT OFF FOR AT LEAST 5 MINUTES SO THAT ITS LIFE WILL NOT GET SHORTER.
- DO NOT UNPLUG THE PROJECTOR OR TURN THE MAINS ON/OFF SWITCH (LOCATED ON THE BACK OF THE PROJECTOR) TO OFF UNTIL THE COOLING FAN HAS STOPPED.

NOTE 1: After you turn off the projector using the POWER (LAMP) ON/OFF button on the projector (or on the remote control unit) you must wait one minute before you can turn the projector on again.

NOTE 2: TEMPERATURE WARNING INDICATOR flashes red, the projector will automatically turn off. Wait at least 5 minutes before turning the projector on.

If the TEMPERATURE WARNING INDICATOR continues to flash, follow the procedures below:

- (1). Press POWER (LAMP) ON/OFF button to OFF.
- (2). Check the air filter for dust accumulation.
- (3). Remove dust with vacuum cleaner (See air filter care and cleaning on page 16.)
- (4). Press POWER (LAMP) ON/OFF button to ON.

If the TEMPERATURE WARNING INDICATOR still continues to flash, call your authorized distributor or dealer for service.

TO TURN OFF THE PROJECTOR

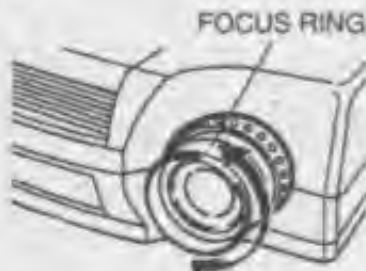
Press the POWER (LAMP) ON/OFF button on the projector (or on the remote control unit) to OFF. The READY indicator will turn off. The cooling fan will operate for 50 seconds after the projector is turned off and POWER indicator will light bright. (During this "cooling down" period, the projector can not be turned on.)

After 10 seconds, the READY indicator will light green again and the projector may be turned on by pressing the POWER (LAMP) ON/OFF button.

ADJUST THE PROJECTOR

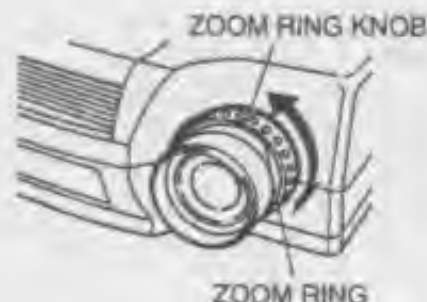
FOCUS ADJUSTMENT

Turn the focus ring using your fingers for sharper, crisper picture. When focusing, press setting button to select focus setting pattern. (See other function setting on page 12.)



ZOOM ADJUSTMENT

Turn the zoom ring using zoom ring knob to obtain your desired picture size.



VOLUME ADJUSTMENT

Press VOLUME buttons (located on projector or remote control unit) to adjust the volume. The screen display will appear.

Pressing (+) will increase volume and the green indicator will increase to the right on the screen.

Pressing (-) will decrease volume and the green indicator will decrease to the left on the screen.



SOUND MUTE ADJUSTMENT

Pressing SOUND MUTE button on the remote control unit will mute audio. Press SOUND MUTE button again to restore audio to its previous level.



PICTURE ADJUSTMENT

The normal picture level is factory preset on the projector and can be obtained anytime by pressing the NORMAL button on the projector, or on the remote control unit. (The Normal display will appear for 5 seconds.)

Picture adjustments can be made by using the MENU and LEVEL buttons on the projector, or on the remote control unit. (See picture adjustment on page 13.)



OTHER FUNCTION SETTING

This projector has other function settings; focus setting pattern, display, blue background and reverse T/B. These setting by using SETTING and LEVEL buttons on the projector.

1. Press SETTING button to select the function.

Each time the SETTING button is pressed, the control function changes as follows:



2. Adjust the display, blue background and reverse T/B by pressing LEVEL (- and +) buttons.

3. The ON-SCREEN display will disappear automatically in 5 seconds.

FOCUS ADJUSTMENT PATTERN

This function lets you project an easier-to-focus picture on the screen. When focusing, select this function with the setting button. (The focus setting pattern will appear for 10 seconds.)

DISPLAY

When this function is "ON" position, the projector to see the on-screen display of all setting and adjustment will be appeared.

When this function is "OFF" position, the projector to see the on-screen display of any setting and adjustment (related of Picture Adjustment and Other function Setting) will be appeared.

BLUE BACK

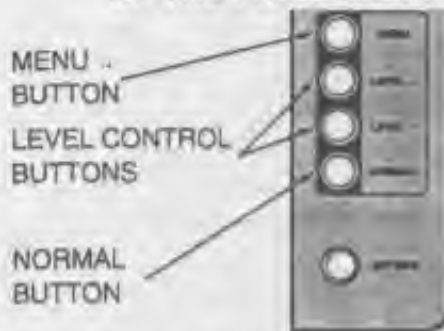
When this function is in the "ON" position, the projector will project the blue image without video noise on the screen when the video source is unplugged or turned off.

REVERSE T/B

When this function is in the "ON" position, the top/bottom picture reverse

PICTURE ADJUSTMENTS

TOP CONTROLS OF THE PROJECTOR

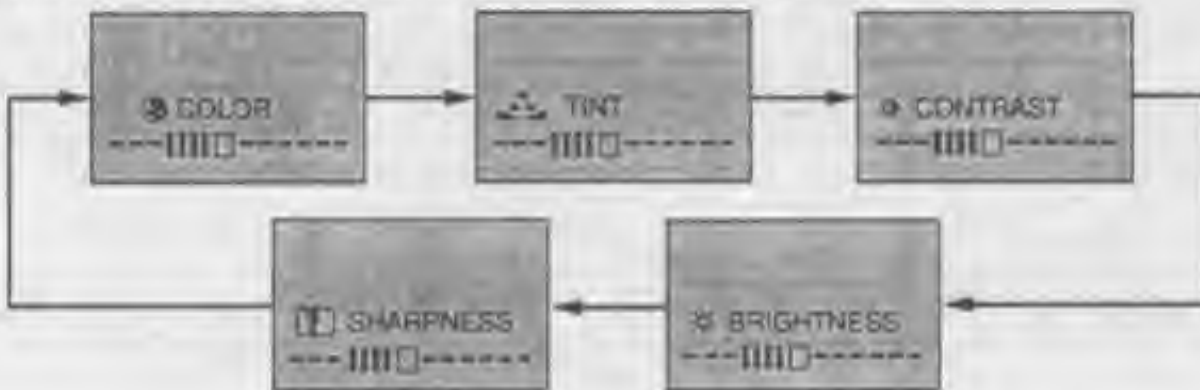


REMOTE CONTROL UNIT



Picture adjustments have been preset at the factory to our quality standards. The picture adjustments can be made by the MENU and LEVEL buttons on the projector or on the remote control unit.

1. Press the MENU button to select the picture adjustments function.
Each time the MENU button is pressed, the control function changes as follows:



2. Adjust the color intensity, tint, contrast, brightness or sharpness by pressing the LEVEL (+ and -) buttons.
3. The ON-SCREEN display will disappear automatically in 5 seconds.

<div style="text-align: center;"> LEVEL </div>	
• Press the LEVEL CONTROL buttons to make adjustments. Refer to the control chart below.	
COLOR	DECREASES ↔ INCREASES
TINT	MORE PURPLE ↔ MORE GREEN
CONTRAST	SOFTER ↔ SHARPER
BRIGHTNESS	DARKER ↔ BRIGHTER
SHARPNESS	SOFTER ↔ SHARPER

NOTE: The projector is equipped with a built-in memory feature that can maintain the picture adjustment levels if the projector is turned off and AC power cord is disconnected. If the NORMAL button is pressed, the projector will return to factory preset level.

CONNECTING THE PROJECTOR

Your projector is equipped with various audio/video inputs and outputs including S-VHS video.

CONNECTING TO THE AV INPUT JACKS

Connect to the video and audio outputs of a VCR, video disc player, video camera, satellite TV tuner or other AV equipment.

- Connect video/audio outputs from external sources to these input jacks.
- If the audio signal from the AV equipment is stereo, be sure to connect the right and left channels to the respective right and left audio input jacks.
- If the external audio signal is monaural, connect it to the left jack.
- Do not connect the video sources to the video input jack (PHONO TYPE) together with the BNC TYPE jack. Use one video input only for video input jack.

S-VHS FORMAT VCR CONNECTION

The AV input includes an extra video input jack marked S-VIDEO to allow connection to an S-VHS format VCR that has separate Y/C video signals. The S-VIDEO jack has priority over the VIDEO (PHONO TYPE or BNC TYPE) jack.

CONNECTING TO THE MONITOR OUTPUT JACKS

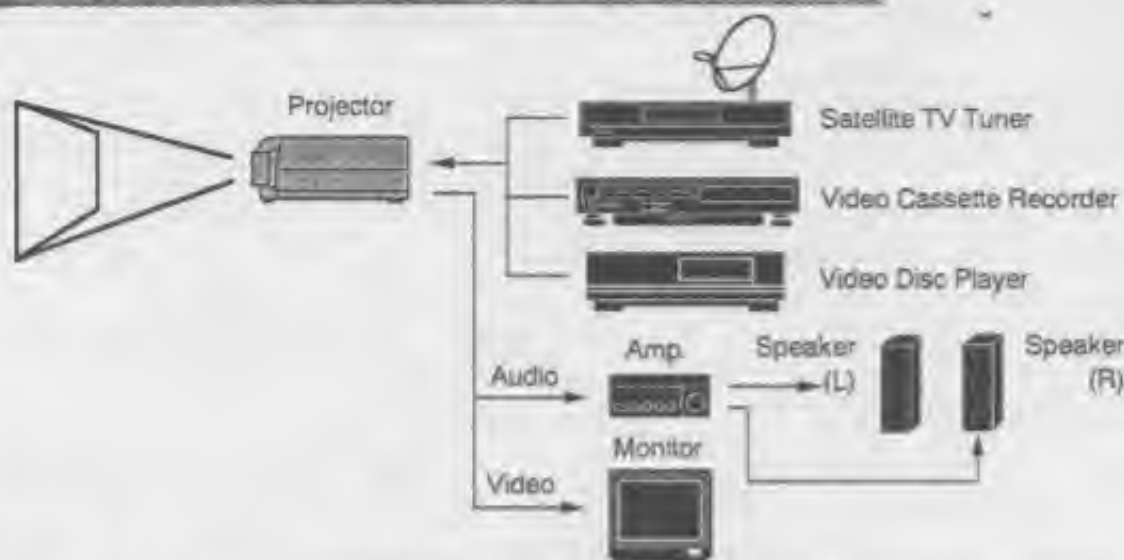
These jacks contain the audio/video information that is viewed on the screen.

- Connect video/audio inputs from AV equipment to these output jacks.
- If the audio input of the audio equipment is stereo, be sure to connect the right and left channels to the respective right and left jacks.
- If the audio input of the audio equipment is monaural, connect it to the left jack.
- Whenever the S-VIDEO signal source is viewed on the screen, the video signal available at the MONITOR OUTPUT jack will be in black and white (monochrome).

CONNECTING TO THE EXT. SP. JACK (3.5mm mini type)

This jack contains the audio information that is viewed on the screen. Use to connect a external monaural speaker system when using this jack, turn off the audio from the internal speaker.

HOW TO CONNECT EXTERNAL AV EQUIPMENT



VIDEO EQUIPMENT

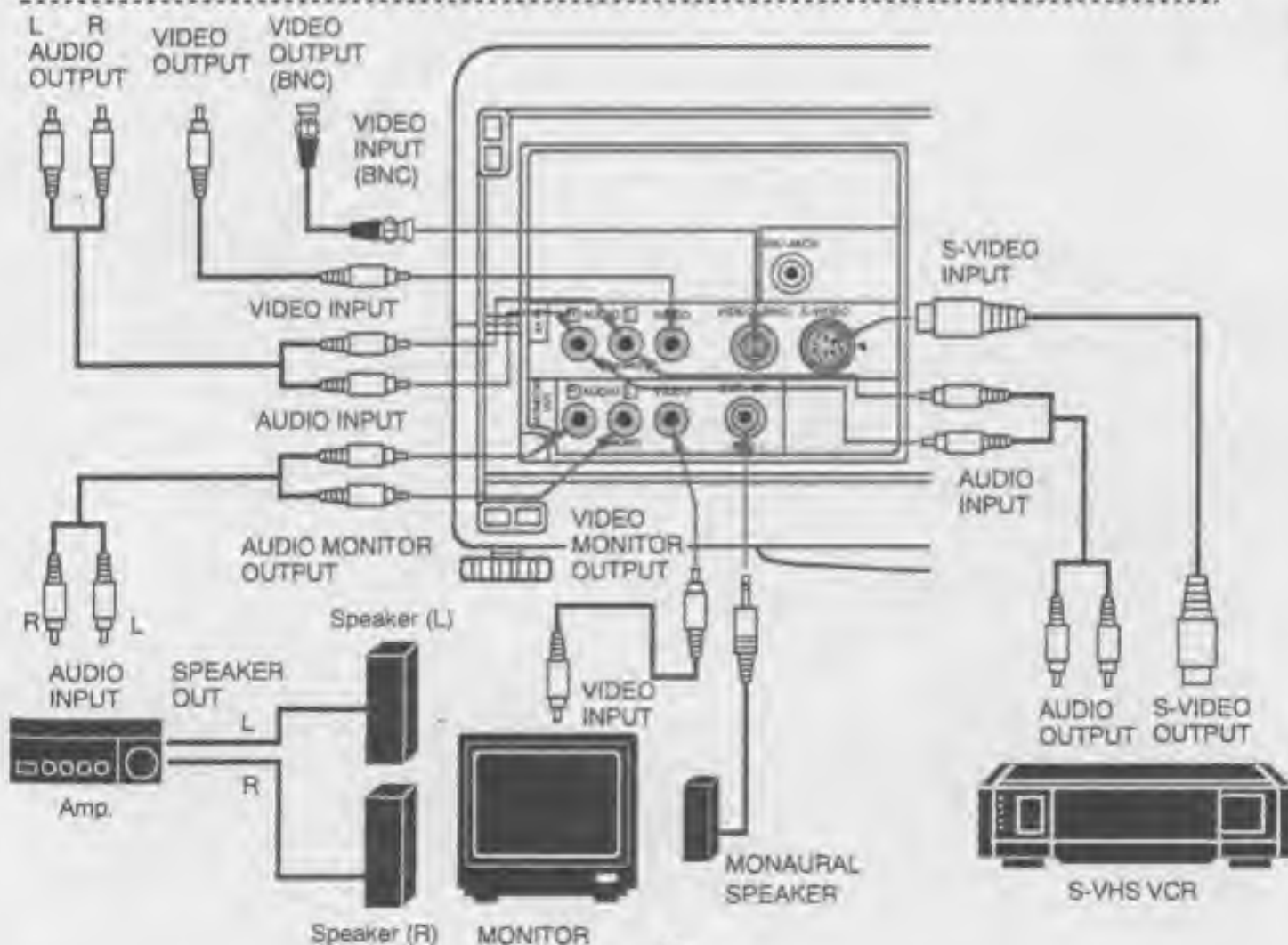
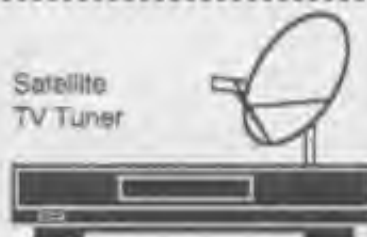
Video Cassette Recorder



Video Disc Player



Satellite TV Tuner



AIR FILTER CARE AND CLEANING

The removable air filter prevents dust from accumulating on the surface of the projection lens and projection mirror. Should the air filter become clogged with dust particles, it will reduce the cooling fan's effectiveness and may result in internal heat built up and reduce the life of the projector.

The air filter should be cleaned about every 100 hours. Clean the air filter more often when the projector is used in a particularly dusty or smoky place.

When the air filter is blackened and beyond cleaning, it is time to change new air filter. Request service from an authorized dealer or service station.

Be sure to face the air filter in the correct direction when installing inside of the filter cover. Attach the air filter with the arrow on the "AIR FLOW" label facing towards the inside of the projector.

To clean the air filter, follow the cleaning procedures below:

1. Turn the POWER (LAMP) ON/OFF button OFF.
2. Remove the air filter cover from the side of the projector.
3. Remove the air filter and sponge from the filter cover.
4. Clean the air filter and sponge with a vacuum cleaner.
5. Replace the air filter and sponge. Make sure that air filter cover is fully inserted.



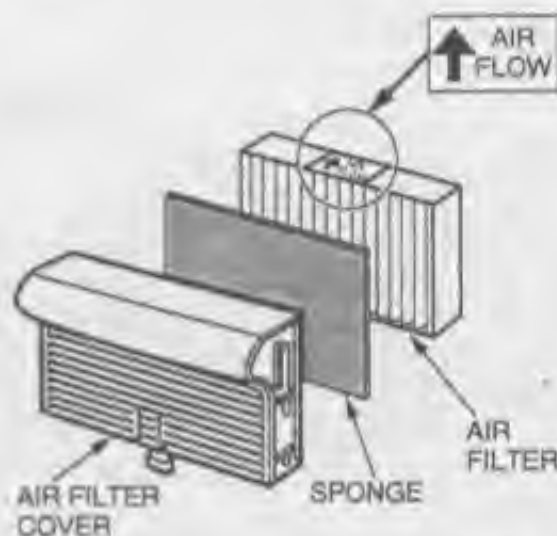
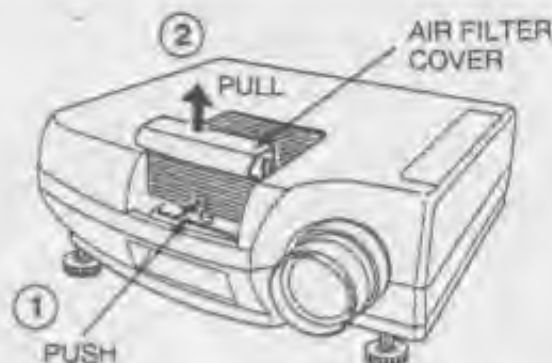
Do not clean with water. Doing so may damage the air filter.
Do not operate the projector with air filter removed.

RECOMMENDATION

TO ENJOY PICTURE IMAGE, USE THE PROJECTOR IN THE CLEAN ENVIRONMENT. USAGE IN THE CLEAN ENVIRONMENT IS RECOMMENDED.

When used under the dusty or smoky conditions, dust may accumulate on the liquid crystal panel and lens inside it, and may resultantly be projected on the screen together with the picture.

When the above symptoms are noticed contact the place where you purchased or the nearest service center for the cleaning.



LAMP REPLACEMENT & TEMPERATURE WARNING INDICATORS

LAMP REPLACEMENT INDICATOR

When the lamp nears the end of its service life, the picture quality and color quality will deteriorate and the lamp replacement indicator will light orange.



DO NOT ATTEMPT TO REMOVE OR CHANGE THE PROJECTION LAMP. THE LAMP CAN ONLY BE CHANGED BY QUALIFIED SERVICE PERSONNEL.

TEMPERATURE WARNING INDICATOR

The TEMPERATURE WARNING INDICATOR flashes red when the internal temperature of the projector exceeds the normal temperature.

Possible causes for the temperature warning may be:

1. Ventilation slots at the front or rear of the projector are blocked. In such an event, reposition the projector so that ventilation slots are not obstructed.
2. Air filter is clogged with dust particles. Remove dust from the air filter by following instructions in the Air Filter Care and Cleaning section above.
If temperature warning indicator remains on after performing the checks listed above, cooling fan/internal circuits may be malfunctioning. Request service from an authorized dealer or service station.

HELPFUL HINTS-Problems and Solutions

Check the following chart before requesting service.

Problem:	Try these Solutions:
No power	<ul style="list-style-type: none"> • Plug the projector into an AC outlet. • Turn the MAINS ON/OFF switch to ON. • Press the POWER (LAMP) ON/OFF button to ON. • Check the READY INDICATOR light ON. • One minute has not passed after the projector turned OFF. <p>NOTE: After pressing the POWER (LAMP) ON/OFF button to OFF, the projector functions as follows.</p> <ol style="list-style-type: none"> 1. The READY Indicator will turn off. 2. The cooling fan will operate for 50 seconds after the projector is turned off and POWER indicator will light bright. (During this "cooling down period, the projector can not be turned on.) 3. After 10 seconds, the READY indicator will light green again and the projector may be turned on by pressing the POWER (LAMP) ON/OFF button.
No sound from built-in speaker	<ul style="list-style-type: none"> • Press the VOLUME (▲) and (▼) to (▲). • Check audio cable connection from audio input source.
Picture is inverted	<ul style="list-style-type: none"> • Check REVERSE SCAN (T/B) Feature.
Picture blurred or color faded	<ul style="list-style-type: none"> • Check the projection distance 4.9' (1.5 m) ~ 26.2 (8.0 m). • Adjust the FOCUS control. <p>NOTE: Moving the projector from a cool temperature location to a warm temperature location may result in moisture condensation on the lens. In such an event, leave the projector OFF and wait until condensation disappears.</p>

TECHNICAL SPECIFICATIONS

SPECIFICATIONS

Projector Type	Portable LCD Color Video Projector
Dimensions (H x W x D)	6.2" (158 mm) x 16.9" (430 mm) x 15.2" (385 mm)
Net Weight	19.6 lbs (8.9 kg)
LCD Panel System	1.3" TFT Active Matrix type (Thin Film Transistor) x 3
Number of Pixels	544,410 (181,470 x 3)
Projection Image Size (Diagonal)	Adjustable from 30" to 150"
Contrast Ratio	100 :1
Horizontal Resolution	550 TV lines
Projection Lens	f2.8 ~ 3.2 lens with 2.09" ~ 2.72" Manual zoom and focus
Lens Aperture	2.04" (51.8 mm)
Throw Distance	4.9' (1.5 m) ~ 19.7' (6.0 m)
Projection Lamp	Metal Halide, 195 watt
Projection Mirror	Dichroic mirror system
AV Input Jacks	RCA Type x 1 (Video, Audio R and L) and DIN 4 pin (S-Video) x 1
Video Monitor Output Jack	RCA Type x 1
Audio Monitor Output Jacks	RCA Type x 1 (R and L)
Other Jacks	Stereo Audio Output Jack x 1 and Wired Remote Jack x 1
Built-in Speaker	INT. SP. Monaural, 3 watt RMS (T.H.D. 10%)
Image Elevation Adjustment	Up 6°
Voltage	120V AC, 50/60 Hz
Power Consumption	260 Watts/4.1A (Max. Ampere)
Operating Temperature	5°C ~ 35°C
Storage Temperature	-10°C ~ 60°C
Remote Control Battery	(3) AA Type
Standard Accessories	Remote Control Unit, R/C Cable 5' (1.5m), AC Power Supply Cord, Lens Cover and Owner's Instruction Manual



This symbol on the nameplate means the product is Listed by Underwriters Laboratories Inc. It is designed and manufactured to meet rigid U.L. safety standards against fire, casualty and electrical hazards.

EIKI

Audio Visual/Video Products

EIKI INTERNATIONAL, INC.

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